MarLIN
Marine Information Network
Information on the species and habitats around the coasts and sea of the British Isles

Bloody Henry starfish (*Henricia oculata*)

MarLIN – Marine Life Information Network
Biology and Sensitivity Key Information Review

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A report from:
The Marine Life Information Network, Marine Biological Association of the United Kingdom.

Please note. This MarESA report is a dated version of the online review. Please refer to the website for the most up-to-date version [https://www.marlin.ac.uk/species/detail/1131]. All terms and the MarESA methodology are outlined on the website (https://www.marlin.ac.uk)

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Henricia oculata.
Photographer: Keith Hiscock
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See online review for distribution map

Distribution data supplied by the Ocean Biogeographic Information System (OBIS). To interrogate UK data visit the NBN Atlas.

Researched by	Angus Jackson	**Refereed by**	Dr Andrew C. Campbell
Authority	(Pennant, 1777)		
Other common names	-	**Synonyms**	-

Summary

Description

A stiff rigid starfish with a sandpapery texture to the dorsal surface. This species comes in a wide variety of colour forms, reds, browns, purples and yellows. Sometimes the disc and inner portions of the arms is much darker than the outer part of the arms, as though the animal has been splashed with paint. The dorsal spinelets are more opaque and irregular than in *Henricia sanguinolenta*.

Recorded distribution in Britain and Ireland

All round Ireland except perhaps for the east coast. South-east England round to the west coast northwards to northern Scotland.

Global distribution

South, West and North coasts of Britain and Ireland. West Channel and Brittany.

Habitat

Found on a variety of substrata on open coasts.

Depth range

0 - 100

Identifying features

- Five tapering stiff arms.
- Sandpaper like texture.
- Dorsal spines blunt and covered with skin.

Additional information

Sometimes confused with *Henricia sanguinolenta*.

Listed by

Further information sources

Search on:

G G NBN WoRMS

Biology review

Taxonomy

Phylum	Echinodermata	Starfish, brittlestars, sea urchins & sea cucumbers
Class	Asteroidea	Starfish
Order	Spinulosida	
Family	Echinasteridae	
Genus	Henricia	
Authority	(Pennant, 1777)	
Recent Synonyms	-	

Biology

Typical abundance	Data deficient
Male size range	<200mm
Male size at maturity	>18mm
Female size range	>18mm
Female size at maturity	
Growth form	Stellate
Growth rate	0.3 - 1% body wt/day
Body flexibility	
Mobility	
Characteristic feeding method	Not relevant, Passive suspension feeder
Diet/food source	
Typically feeds on	Suspended matter, detritus layer, sponges, hydroids, ectoprocts
Sociability	
Environmental position	Epifaunal
Dependency	Independent.
Supports	Host *Asterocheres lillyeborgi*
Is the species harmful?	No

Biology information

Size at maturity refers to radius. Adults typically around 100 mm.
Stomach eversion is an important supplement to suspension feeding.
The parasitic cyclopoid copepod *Asterocheres lillyeborgi* has more than a 90% occurrence

Habitat preferences

Physiographic preferences	Open coast
Biological zone preferences	Lower circalittoral, Lower infralittoral, Sublittoral fringe, Upper circalittoral, Upper infralittoral

Substratum / habitat preferences	Bedrock, Cobbles, Gravel / shingle, Large to very large boulders, Pebbles, Small boulders
Tidal strength preferences	
Wave exposure preferences	Exposed, Moderately exposed, Very exposed
Salinity preferences	Full (30-40 psu)
Depth range	0 - 100
Other preferences	No text entered
Migration Pattern	Non-migratory / resident

Habitat Information

Henricia oculata is occasionally found exposed to the air at low spring tides (Campbell pers comm.).

Life history

Adult characteristics

Reproductive type	Gonochoristic (dioecious)
Reproductive frequency	Annual protracted
Fecundity (number of eggs)	100-1,000
Generation time	Insufficient information
Age at maturity	Not relevant
Season	March - April
Life span	2-5 years

Larval characteristics

Larval/propagule type	-
Larval/juvenile development	Direct development
Duration of larval stage	No information
Larval dispersal potential	Greater than 10 km
Larval settlement period	Insufficient information

Life history information

Females have ripe eggs between March and April, males have mature sperm throughout the year. Maturity dependent on size rather than age.

Sensitivity review

This MarLIN sensitivity assessment has been superseded by the MarESA approach to sensitivity assessment. MarLIN assessments used an approach that has now been modified to reflect the most recent conservation imperatives and terminology and are due to be updated by 2016/17.

Physical Pressures

	Intolerance	Recoverability	Sensitivity	Confidence
Substratum Loss	High	High	Moderate	Low

The species is an epifaunal crawler that occupies a broad range of substrata. Loss of the substratum would result in death. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.

Smothering	Intermediate	High	Low	Low

The species is able to move by slow crawling. It does not typically live on sediment so smothering by sediment may cause locomotion problems. Crawling back up through the sediment may not be possible. *Henricia oculata* frequently suspension feeds so changing the substratum for one month would have little effect on the ability to feed. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.

Increase in suspended sediment	Low	Very high	Very Low	Low

Henricia oculata frequently suspension feeds, increased siltation may clog or interfere with this mechanism requiring extra energy expenditure to clear the feeding apparatus. Recovery occurs once feeding is no longer impaired, energy expenditure is returned to normal and condition is restored.

Decrease in suspended sediment

Dessication	Intermediate	High	Low	Low

Henricia oculata is generally only found subtidally although is occasionally exposed at low spring tides. If it was exposed to the air it would probably not be able to move fast enough to return to the water rapidly. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.

Increase in emergence regime	Tolerant	Not relevant	Not sensitive	Low

Henricia oculata is only found subtidally and if the emergence regime changed, it probably has sufficient mobility to move to a location that is not subject to emergence.

Decrease in emergence regime

Increase in water flow rate	Low	Very high	Very Low	Low

The species has sufficient mobility to move out of the area of altered water flow. An altered water flow rate may interfere with suspension feeding ability. The species does not rely entirely on passive suspension feeding but is also an active omnivore. Recovery occurs once feeding is no longer impaired and condition is restored.

Decrease in water flow rate

Increase in temperature	High	High	Moderate	Low

The species has quite a restricted global distribution. Long term temperature changes will cause the population to die (or to move location). Rapid, acute temperature increase will probably also cause death. A short term decrease in temperature will probably just cause inactivity. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.

Decrease in temperature

Increase in turbidity	Tolerant	Not relevant	Not sensitive	Low

Behaviour is not dependent on ambient light. The species is found down to 100 metres where light availability is very limited.

Decrease in turbidity

Increase in wave exposure	Intermediate	High	Low	Low

Wave action in extremely exposed areas may be too great for the species to maintain position on substrata. A change of two ranks means that the species is likely to be subject to lower wave exposure conditions than its preferred range. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.

Decrease in wave exposure

Noise	Tolerant	Not relevant	Not sensitive	Low

The species is unlikely to respond to noise vibrations

Visual Presence	Tolerant	Not relevant	Not sensitive	Low

Starfish have photoreceptors but cannot resolve moving objects so will not respond to visual disturbance.

Abrasion & physical disturbance	Low	Very high	Very Low	Low

Physical disturbance or impact by due to a scallop dredge is likely to cause some physical damage to *Henricia oculata* but starfish have well documented regenerative abilities (see *Asterias rubens*).

Displacement	Tolerant	Not relevant	Not sensitive	Low

The species is mobile and displacement would not affect the species.

Chemical Pressures

	Intolerance	Recoverability	Sensitivity	Confidence
Synthetic compound contamination				Not relevant

Insufficient information

Heavy metal contamination				Not relevant

Insufficient information

Hydrocarbon contamination				Not relevant

Insufficient information

Radionuclide contamination				Not relevant

Insufficient information

Changes in nutrient levels				Not relevant

Insufficient information

Increase in salinity	Intermediate	Moderate	Moderate	Low

Species lives only in fully saline habitats. A reduction of one salinity rank would result in the species being exposed to conditions outside its preferred range. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.

Decrease in salinity

Changes in oxygenation	Intermediate	Moderate	Moderate	Low

Cole *et al.* (1999) suggest possible effects on marine species below 4 mg/l and probable effects below 2mg/l. There is no information about *Henricia oculata* tolerance to changes in oxygenation..

Biological Pressures

	Intolerance	Recoverability	Sensitivity	Confidence
Introduction of microbial pathogens/parasites				Not relevant

Insufficient information

Introduction of non-native species				Not relevant

Insufficient information

Extraction of this species	Not relevant	Not relevant	Not relevant	Low

It is very unlikely that this species would be extracted.

Extraction of other species	Not relevant	Not relevant	Not relevant	Low

The species has no known obligate relationships.

Additional information

Importance review

Policy/legislation

- no data -

Status

National (GB) importance -

Global red list (IUCN) category -

Non-native

Native -

Origin -

Date Arrived -

Importance information

-none-

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